SEQUENCE LISTING

<110>	Agensys, Inc. Challita Eid, Pia M. Hubert, Rene S. Raitano, Arthur B. Faris, Mary Afar, Daniel E. H. Ge, Wangmao Jakobovitz, Aya	
<120>	NUCLEIC ACID AND CORRESPONDING PROTEIN ENTITLED 121P1F1 USEFUL IN TREATMENT AND DETECTION OF CANCER	
<130>	51158-20034.20	
	US10/087,190 2002-02-28	
	US 09/779,250 2001-03-05	
<160>	69	
<170>	FastSEQ for Windows Version 4.0	
<210><211><212><212><213>	254	
aagaa totca gaaco	leagte titgtattit tetaettetg cetttagetg ticeettigg tetegaagtg 6 lagete tittgetage eiggiteget eileegitte acaleggeea altitageti 1 laiget titeigiagg eilgealget tilgaettee eleagaeaae igagalieea 1 elecaa ellaigitte eligealgaa gagettiaet iggaaaagee eaalaalaat 2	120 180
<210><211><211><212><213>	867	
<220><221><222>		
	aatcaa acgegteegg geetgteeeg eeeeteteee caagegeggg eeeggeeage 🤅	50 111
	aag aga act cgc atg atg gaa ata ttt tct gaa aca aaa gat gta Lys Arg Thr Arg Met Met Glu Ile Phe Ser Glu Thr Lys Asp Val 15 20 25	159
	caa tta aaa gac tig gag aag att got ccc aaa gag aaa ggc att : Sin Leu Lys Asp Leu Glu Lys Ile Ala Pro Lys Glu Lys Gly Ile	207

30		35	40	
act gct atg tca g Thr Ala Met Ser V 45	Val Lys Glu Va	-		- T
atg gtt gac tgt g Met Val Asp Cys G 60	, , , , , , , ,	,		
cca agt aaa gct c Pro Ser Lys Ala L 75				
tct cag ttg tct g Ser Gln Leu Ser G				s Ser
att gag aaa gct a Ile Glu Lys Ala I 110				c agg 447 c Arg
cta gca aaa gag c Leu Ala Lys Glu I 125		eu Arg Asp Gln		_
gca gaa gta gaa a Ala Glu Val Glu I 140	_	~ ~ ~		_
ata cgc caa gca a Ile Arg Gln Ala A 155				
gat aac ata ttc g Asp Asn Ile Phe A				7 Phe
gaa gaa aat aaa a Glu Glu Asn Lys I 190				=
tac ata gac taaaa Tyr Ile Asp 205	atattc catggtg	ggtg aaggatgtac	c aagcttgtga	736
atatgtaaat tttaaa gtgtttatca ttttat aaaaaaaaaa a		J J J		~
<210> 3 <211> 205 <212> PRT <213> Homo Sapier	ns			
<400> 3 Met Ser Lys Lys I				g Met
1 Met Glu Ile Phe S 20	5 Ser Glu Thr Ly	10 ys Asp Val Phe 25	Gln Leu Lys Asp 30	o Leu
Glu Lys Ile Ala F	Pro Lys Glu Ly		-	l Lys

		2 F					1.0					4 5				
Glu	Val 50	35 Leu	Gln	Ser	Leu	Val	40 Asp	Asp	Gly	Met	Val 60	45 Asp	Cys	Glu	Arg	
Ile 65		Thr	Ser	Asn	Tyr 70		Trp	Ala	Phe	Pro 75		Lys	Ala	Leu	His 80	
	Arg	Lys	His	Lys 85	_	Glu	Val	Leu	Glu 90		Gln	Leu	Ser	Glu 95		
Ser	Gln	Lys	His 100		Ser	Leu	Gln	Lys 105		Ile	Glu	Lys	Ala 110		Ile	
Gly	Arg	Суs 115	Glu	Thr	Glu	Glu	Arg 120	Thr	Arg	Leu	Ala	Lys 125		Leu	Ser	
Ser	Leu 130		Asp	Gln	Arg	Glu 135	Gln	Leu	Lys	Ala	Glu 140		Glu	Lys	Tyr	
Lys 145		Cys	Asp	Pro	Gln 150		Val	Glu	Glu	Ile 155		Gln	Ala	Asn	Lys 160	
	Ala	Lys	Glu	Ala 165		Asn	Arg	Trp	Thr 170		Asn	Ile	Phe	Ala 175		
Lys	Ser	Trp	Ala 180		Arg	Lys	Phe	Gly 185		Glu	Glu	Asn	Lys 190		Asp	
Arg	Thr	Phe 195		Ile	Pro	Glu	Asp 200		Asp	Tyr	Ile	Asp 205				
<211 <212	0 > 4 1 > 10 2 > Di 3 > Ho	JA	Sapie	ens												
	l > CI															
<222	2> (8	32).	(45	59)												
<400	0> 4															
<400	0> 4 aaato	caa a	acgc	gtaco		atg	tcccq tca Ser	aag	aaa	aaa	gga	ctg	agt	gca		60 111
<400 ccaa ggaa ggaa)> 4 aaato agcco agco	caa a cct q aga	acgeg geged act	gteeg eegeg	gc c atg	atg Met 1 atg	tca	aag Lys ata	aaa Lys ttt	aaa Lys 5 tct	gga Gly gaa	ctg Leu aca	agt Ser aaa	gca Ala gat	gaa Glu 10 gta	
<400 ccaa ggaa gaa Glu	0> 4 aaatc agcc aag Lys	caa a cct q aga arg	acgco gcgco act Thr	gteeg ege ege Arg 15 gae	atg Met ttg	atg Met 1 atg Met	tca Ser gaa	aag Lys ata Ile	aaa Lys ttt Phe 20 gct	aaa Lys 5 tct Ser	gga Gly gaa Glu	ctg Leu aca Thr	agt Ser aaa Lys	gca Ala gat Asp 25	gaa Glu 10 gta Val	111
<400 ccaa ggaa gaa Glu ttt Phe)> 4 aaatc agccc aag Lys caa Gln	aga Arg tta Leu	acgcg gcgcd act Thr aaa Lys 30 tca	gtecg ege ege Arg 15 gac Asp	atg Met ttg Leu	atg Met 1 atg Met gag Glu	tca Ser gaa Glu aag	aag Lys ata Ile att Ile 35	ttt Phe 20 gct Ala	aaa Lys 5 tct Ser ccc Pro	gga Gly gaa Glu aaa Lys	ctg Leu aca Thr gag Glu	agt Ser aaa Lys aaa Lys 40	gca Ala gat Asp 25 ggc Gly	gaa Glu 10 gta Val att Ile	111
<400 ccaa ggaa gaa Glu ttt Phe act Thr	aagccoagccoagccoagccoagccoagccoagccoaagccoaagccoagccoagccoagccoagccoagccoagccaagc	aga Arg tta Leu atg Met 45	acgcg gcgcd act Thr aaa Lys 30 tca Ser	cgc Arg 15 gac Asp gta Val	atg Met ttg Leu aaa Lys	atg Met 1 atg Met gag Glu gaa Glu	gaa Glu aag Lys	aag Lys ata Ile att Ile 35 ctt Leu	ttt Phe 20 gct Ala caa Gln	aaa Lys 5 tct Ser ccc Pro agc ser	gga Gly gaa Glu aaa Lys tta Leu	aca Thr gag Glu gtt Val 55	agt ser aaa Lys 40 gat Asp	gca Ala gat Asp 25 ggc Gly gat Asp	gaa Glu 10 gta Val att Ile ggt Gly	111159207
caaaggaaaggaaaggaaaggaaggaaggaaggaaggaa	aagccoagccoagccoagccoagccoagccoagccoagc	aga Arg tta Leu atg Met 45 gac Asp	acgcggcgcgact Thr aaa Lys 30 tca Ser tgt Cys	cgc cgc Arg 15 gac Asp gta Val gag Glu	atg Met ttg Leu aaa Lys agg Arg	atg Met 1 atg Met gag Glu gaa Glu atc Ile 65	gaa Glu aag Lys gtc Val 50	aag Lys ata Ile att Ile 35 ctt Leu act Thr	ttt Phe 20 gct Ala caa Gln tct ser	aaa Lys 5 tct Ser ccc Pro agc Ser aat Asn	gga Gly gaa Glu aaa Lys tta Leu tat Tyr 70	aca Thr gag Glu gtt Val 55 tat Tyr	agt Ser aaa Lys 40 gat Asp tgg Trp	gca Ala gat Asp 25 ggc Gly gat Asp gct Ala	gaa Glu 10 gta Val att Ile ggt Gly ttt Phe	111 159 207 255

```
tat aga aaa tto tgg ctg ggc gca gtg gct cac gcc tgt aat ccc agc
Tyr Arg Lys Phe Trp Leu Gly Ala Val Ala His Ala Cys Asn Pro Ser
act ttg gga ggc tgaggegggc agatcacgag gtgactttcc cccaccccca
                                                                   499
Thr Leu Gly Gly
        125
catgaagtgc aagatggagt tgtctgaggg aagtcaaaag catgcaagcc tacagaaaag 559
cattgagaaa gctaaaattg gccgatgtga aacggaagag cgaaccaggc tagcaaaaga 619
getttettea ettegagace aaagggaaca getaaaggea gaagtagaaa aatacaaaga 679
ctgtgatccg caagttgtgg aagaaatacg ccaagcaaat aaagtagcca aagaagctgc 739
taacagatgg actgataaca tattcgcaat aaaatcttgg gccaaaagaa aatttgggtt 799
tgaagaaaat aaaattgata gaacttttgg aattccagaa gactttgact acatagacta 859
aaatattcca tggtggtgaa ggatgtacaa gcttgtgaat atgtaaattt taaactatta 919
tctaactaag tgtactgaat tgtcgtttgc ctgtaactgt gtttatcatt ttattaatgt 979
taaataaagt gtaaaatgca aaaaaaaaaa aaaaaaaaa aaaaaaaaa
<210> 5
<211> 126
<212> PRT
<213> Homo Sapiens
<400> 5
Met Ser Lys Lys Gly Leu Ser Ala Glu Glu Lys Arg Thr Arg Met
Met Glu Ile Phe Ser Glu Thr Lys Asp Val Phe Gln Leu Lys Asp Leu
                                25
                                                     30
Glu Lys Ile Ala Pro Lys Glu Lys Gly Ile Thr Ala Met Ser Val Lys
                            40
Glu Val Leu Gln Ser Leu Val Asp Asp Gly Met Val Asp Cys Glu Arg
    50
Ile Gly Thr Ser Asn Tyr Tyr Trp Ala Phe Pro Ser Lys Ala Leu His
                    70
                                        75
Ala Arg Lys His Lys Leu Glu Val Leu Glu Ser Gln Asp Pro Gly Cys
                85
                                    90
Cys Phe His Glu Ile Ile Lys Val Ser Tyr Tyr Arg Lys Phe Trp Leu
            100
                                105
Gly Ala Val Ala His Ala Cys Asn Pro Ser Thr Leu Gly Gly
                            120
<210> 6
<211> 1028
<212> DNA
<213> Homo Sapiens
<220>
<221> CDS
<222> (501) ... (857)
<400> 6
ccaaaatcaa acgcgtccgg gcctgtcccg cccctctccc caagcgcggg cccggccaqc 60
ggaagcccct gcgcccgcgc catgtcaaag aaaaaaggac tgagtgcaga agaaaagaga 120
actogoatga tggaaatatt ttotgaaaca aaagatgtat ttoaattaaa agacttggag 180
aagattgete eeaaagagaa aggeattaet getatgteag taaaagaagt eetteaaage 240
ttagttgatg atggtatggt tgactgtgag aggatcggaa cttctaatta ttattgggct 300
tttccaagta aagctcttca tgcaaggaaa cataagttgg aggttctgga atctcaggac 360
cctggctgct gcttccatga aataattaaa gtctcctatt atagaaaatt ctggctgggc 420
gcagtggctc acgcctgtaa tcccagcact ttgggaggct gaggcgggca gatcacgagg 480
```

tgactttccc ccacc		ys Cys Lys M		t gag gga agt er Glu Gly Ser 10	
caa aag cat gca Gln Lys His Ala 15					581
cga tgt gaa acg Arg Cys Glu Thr 30					629
ctt cga gac caa Leu Arg Asp Gln 45					677
gac tgt gat ccg Asp Cys Asp Pro 60					725
gcc aaa gaa gct Ala Lys Glu Ala					773
tct tgg gcc aaa Ser Trp Ala Lys 95	_				821
act ttt gga att Thr Phe Gly Ile 110	5 5	_		atattc	867
catggtggtg aagga agtgtactga attgt gtgtaaaatg caaaa	cgttt gcctgt	aact gtgttta	tca ttttatta		
<210> 7 <211> 119 <212> PRT <213> Homo Sapie	ens				
<400> 7 Met Lys Cys Lys	Met Glu Leu	Ser Glu Gly	Ser Gln Lvs	His Ala Ser	
1 Leu Gln Lys Ser	5	10	_	15	
20 Glu Arg Thr Arg	Leu Ala Lys	25 Glu Leu Ser	Ser Leu Arg	30 Asp Gln Arg	
35 Glu Gln Leu Lys		40 Glu Lys Tyr		Asp Pro Gln	
50 Val Val Glu Glu 65	55 Ile Arg Gln 70	Ala Asn Lys	60 Val Ala Lys 75	Glu Ala Ala 80	
Asn Arg Trp Thr		Phe Ala Ile			
Lys Phe Gly Phe 100			Arg Thr Phe		
Glu Asp Phe Asp 115	Tyr Ile Asp				

<210> 8

<211> 752 <212> DNA <213> Homo Sapiens
<220> <221> CDS <222> (82)(447)
<pre><400> 8 ccaaaatcaa acgcgtccgg gcctgtcccg cccctctccc caagegcggg cccggccagc 60 ggaagcccct gcgcccgcgc c atg tca aag aaa aaa gga ctg agt gca gaa 111</pre>
gaa aag aga act cgc atg atg gaa ata ttt tct gaa aca aaa gat gta 159 Glu Lys Arg Thr Arg Met Met Glu Ile Phe Ser Glu Thr Lys Asp Val 15 20 25
ttt caa tta aaa gac ttg gag aag att gct ccc aaa gag aaa ggc att 207 Phe Gln Leu Lys Asp Leu Glu Lys Ile Ala Pro Lys Glu Lys Gly Ile 30 35 40
act get atg tea gta aaa gaa gte ett eaa age tta gtt gat ggt 255 Thr Ala Met Ser Val Lys Glu Val Leu Gln Ser Leu Val Asp Asp Gly 45 50 55
atg gtt gac tgt gag agg atc gga act tct aat tat tat tgg gct ttt 303 Met Val Asp Cys Glu Arg Ile Gly Thr Ser Asn Tyr Tyr Trp Ala Phe 60 65 70
cca agt aaa gct ctt cat gca agg aaa cat aag ttg gag gtt ctg gaa 351 Pro Ser Lys Ala Leu His Ala Arg Lys His Lys Leu Glu Val Leu Glu 75 80 85 90
tct cag ttg tct gag gga agt caa aag cat gca agc cta cag aaa agc 399 Ser Gln Leu Ser Glu Gly Ser Gln Lys His Ala Ser Leu Gln Lys Ser 95 100 105
att gag aaa gct aaa att ggc cga tgt gaa acg gcc aag caa ata aag 447 Ile Glu Lys Ala Lys Ile Gly Arg Cys Glu Thr Ala Lys Gln Ile Lys 110 115 120
tagccaaaga agctgctaac agatggactg ataacatatt cgcaataaaa tcttgggcca 507 aaagaaaatt tgggtttgaa gaaaataaaa ttgatagaac ttttggaatt ccagaagact 567 ttgactacat agactaaaat attccatggt ggtgaaggat gtacaagctt gtgaatatgt 627 aaattttaaa ctattatcta actaagtgta ctgaattgtc gtttgcctgt aactgtgttt 687 atcattttat taatgttaaa taaagtgtaa aatgcaaaaa aaaaaaaaa 747 aaaaaa
<210> 9 <211> 122 <212> PRT <213> Homo Sapiens
<400> 9 Met Ser Lys Lys Gly Leu Ser Ala Glu Glu Lys Arg Thr Arg Met
1 5 10 15 Met Glu Ile Phe Ser Glu Thr Lys Asp Val Phe Gln Leu Lys Asp Leu 20 25 30
Glu Lys Ile Ala Pro Lys Glu Lys Gly Ile Thr Ala Met Ser Val Lys 35 40 45

Glu	Val 50	Leu	Gln	Ser	Leu	Val 55	Asp	Asp	Gly	Met	Val 60	Asp	Cys	Glu	Arg	
Ile 65		Thr	Ser	Asn	Tyr 70		Trp	Ala	Phe	Pro 75	Ser	Lys	Ala	Leu	His 80	
	Arg	Lys	His	Lys 85		Glu	Val	Leu	Glu 90	Ser	Gln	Leu	Ser	Glu 95	Gly	
Ser	Gln	Lys	His 100	Ala	Ser	Leu	Gln	Lys 105		Ile	Glu	Lys	Ala 110		Ile	
Gly	Arg	Cys 115		Thr	Ala	Lys	Gln 120		Lys				110			
<211 <212)> 10 L> 82 2> Di B> Ho	22	Sapie	ens												
	l > CI	DS 32).	(6	51)												
	0> 10		acaca	ataco	ia a	actai	cccc	3 CC	cata	teee	caac	acaca	agg (cccq	gccagc	60
ggaa	agcc	cct (gege	ccgc	gc c	atg	tca	aag	aaa	aaa	gga Gly	ctg	agt	gca	gaa	111
gaa Glu	aag Lys	aga Arg	act Thr	cgc Arg 15	atg Met	atg Met	gaa Glu	ata Ile	ttt Phe 20	tct Ser	gaa Glu	aca Thr	aaa Lys	gat Asp 25	gta Val	159
ttt Phe	caa Gln	tta Leu	aaa Lys 30	gac Asp	ttg Leu	gag Glu	aag Lys	att Ile 35	gct Ala	ccc Pro	aaa Lys	gag Glu	aaa Lys 40	ggc Gly	att Ile	207
act Thr	gct Ala	atg Met 45	tca Ser	gta Val	aaa Lys	gaa Glu	gtc Val 50	ctt Leu	caa Gln	agc Ser	tta Leu	gtt Val 55	gat Asp	gat Asp	ggt Gly	255
atg Met	gtt Val 60	gac Asp	tgt Cys	gag Glu	agg Arg	atc Ile 65	gga Gly	act Thr	tct Ser	aat Asn	tat Tyr 70	tat Tyr	tgg Trp	gct Ala	ttt Phe	303
cca Pro 75	agt Ser	aaa Lys	gct Ala	ctt Leu	cat His 80	gca Ala	agg Arg	aaa Lys	cat His	aag Lys 85	ttg Leu	gag Glu	gtt Val	ctg Leu	gaa Glu 90	351
tct Ser	cag Gln	ttg Leu	tct Ser	gag Glu 95	gga Gly	agt Ser	caa Gln	aag Lys	cat His 100	Ala	agc Ser	cta Leu	cag Gln	aaa Lys 105	Ser	399
att Ile	gag Glu	aaa Lys	gct Ala 110	aaa Lys	att Ile	ggc Gly	cga Arg	tgt Cys 115	Glu	acg Thr	gaa Glu	gag Glu	cga Arg 120	Thr	agg Arg	447
				ctt Leu				Arg								495
gca Ala	gaa Glu	gta Val	gaa Glu	aaa Lys	tac Tyr	aaa Lys	gac Asp	tgt Cys	gat Asp	ccg Pro	caa Gln	gtt Val	gtg Val	gaa Glu	gaa Glu	543

140 145 150

```
ata cat aac ata ttc qca ata aaa tct tgg gcc aaa aga aaa ttt ggg
                                                                   591
Ile His Asn Ile Phe Ala Ile Lys Ser Trp Ala Lys Arg Lys Phe Gly
155
                    160
ttt gaa gaa aat aaa att gat aga act ttt gga att cca gaa gac ttt
                                                                   639
Phe Glu Glu Asn Lys Ile Asp Arg Thr Phe Gly Ile Pro Glu Asp Phe
                                     180
                175
                                                                   691
gac tac ata gac taaaatattc catggtggtg aaggatgtac aagcttgtga
Asp Tyr Ile Asp
            190
atatgtaaat tttaaactat tatctaacta agtgtactga attgtcgttt gcctgtaact 751
gtgtttatca ttttattaat gttaaataaa gtgtaaaatg caaaaaaaaa aaaaaaaaa 811
aaaaaaaaa a
<210> 11
<211> 190
<212> PRT
<213> Homo Sapiens
<400> 11
Met Ser Lys Lys Gly Leu Ser Ala Glu Glu Lys Arg Thr Arg Met
1
Met Glu Ile Phe Ser Glu Thr Lys Asp Val Phe Gln Leu Lys Asp Leu
            20
                                25
Glu Lys Ile Ala Pro Lys Glu Lys Gly Ile Thr Ala Met Ser Val Lys
                            40
Glu Val Leu Gln Ser Leu Val Asp Asp Gly Met Val Asp Cys Glu Arg
                        55
Ile Gly Thr Ser Asn Tyr Tyr Trp Ala Phe Pro Ser Lys Ala Leu His
                    70
                                         75
Ala Arg Lys His Lys Leu Glu Val Leu Glu Ser Gln Leu Ser Glu Gly
                                     90
                85
Ser Gln Lys His Ala Ser Leu Gln Lys Ser Ile Glu Lys Ala Lys Ile
                                                     110
            100
                                105
Gly Arg Cys Glu Thr Glu Glu Arg Thr Arg Leu Ala Lys Glu Leu Ser
                                                 125
        115
                             120
Ser Leu Arg Asp Gln Arg Glu Gln Leu Lys Ala Glu Val Glu Lys Tyr
                                             140
                        135
Lys Asp Cys Asp Pro Gln Val Val Glu Glu Ile His Asn Ile Phe Ala
                    150
                                         155
Ile Lys Ser Trp Ala Lys Arg Lys Phe Gly Phe Glu Glu Asn Lys Ile
                165
                                     170
Asp Arg Thr Phe Gly Ile Pro Glu Asp Phe Asp Tyr Ile Asp
            180
                                 185
                                                     190
<210> 12
<211> 1205
<212> DNA
<213> Homo Sapiens
< 220 >
<221> CDS
<222> (281)...(850)
<400> 12
gttttctgta ttgtaatatg tagagcacat tccagaactg ctcagtttcg agttacctaa 60
```

gggcaggagt cgctg ttaaggacgc tctgc	ctett gtgeegggt actga attaggett	g ctgctggttg c ctcgtgggtc	acgccccggt ttctgcca tgtagggcgc tgttgctt atgatcagtt aagtcctg atg atg gaa ata ttt Met Met Glu Ile Ph	tt 180 tc 240 295
-	-	-	ttg gag aag att gct Leu Glu Lys Ile Ala 20	343
			aaa gaa gtc ctt caa Lys Glu Val Leu Gln 35	391
			agg atc gga act tct Arg Ile Gly Thr Ser 50	439
		_	cat gca agg aaa cat His Ala Arg Lys His 65	487
			gga agt caa aag cat Gly Ser Gln Lys His 85	535
		_	att ggc cga tgt gaa Ile Gly Arg Cys Glu 100	583
			tct tca ctt cga gac Ser Ser Leu Arg Asp 115	631
			tac aaa gac tgt gat Tyr Lys Asp Cys Asp 130	679
		Gln Ala Asn	aaa gta gcc aaa gaa Lys Val Ala Lys Glu 145	727
-		_	ata aaa tot tgg goo Ile Lys Ser Trp Ala 165	775
Lys Arg Lys Phe			gat aga act ttt gga Asp Arg Thr Phe Gly 180	823
att cca gaa gac Ile Pro Glu Asp 185	-	_	ttc catggtggtg	870
attgtcgttt gcctg cagatgttct tcacc gctcatcaaa gtagg	taact gtgtttatc cettt tggtagaac acact aaaaatcca ggccg ctctagagg	a ttttattaat a aaagcaggat t ccatctcagt a tccaagctta	tatctaacta agtgtact gttaaataaa gtgtaaaa gataaccata tccccca caaagtcgag cggccgcg cgtacgcgtg catgcgac	tg 990 gt 1050 aa 1110

.:210> 13 <211> 190 <:212> PRT <:213> Homo Sapiens -:400> 13 Met Met Glu Ile Phe Ser Glu Thr Lys Asp Val Phe Gln Leu Lys Asp Leu Glu Lys Ile Ala Pro Lys Glu Lys Gly Ile Thr Ala Met Ser Val 20 Lys Glu Val Leu Gln Ser Leu Val Asp Asp Gly Met Val Asp Cys Glu 4.0 45 Arg Ile Gly Thr Ser Asn Tyr Tyr Trp Ala Phe Pro Ser Lys Ala Leu 55 60 His Ala Arg Lys His Lys Leu Glu Val Leu Glu Ser Gln Leu Ser Glu 70 75 Gly Ser Gln Lys His Ala Ser Leu Gln Lys Ser Ile Glu Lys Ala Lys 85 90 Ile Gly Arg Cys Glu Thr Glu Glu Arg Thr Arg Leu Ala Lys Glu Leu 100 105 Ser Ser Leu Arg Asp Gln Arg Glu Gln Leu Lys Ala Glu Val Glu Lys 115 120 125 Tyr Lys Asp Cys Asp Pro Gln Val Val Glu Glu Ile Arg Gln Ala Asn 135 140 Lys Val Ala Lys Glu Ala Ala Asn Arg Trp Thr Asp Asn Ile Phe Ala 150 155 Ile Lys Ser Trp Ala Lys Arg Lys Phe Gly Phe Glu Glu Asn Lys Ile 165 170 Asp Arg Thr Phe Gly Ile Pro Glu Asp Phe Asp Tyr Ile Asp 185 <210> 14 <211> 205 <212> PRT <213> Homo Sapiens <400> 14 Met Ser Lys Lys Gly Leu Ser Ala Glu Glu Lys Arg Thr Arg Met Met Glu Ile Phe Ser Glu Thr Lys Asp Val Phe Gln Leu Lys Asp Leu 2.5 Glu Lys Ile Ala Pro Lys Glu Lys Gly Ile Thr Ala Met Ser Val Lys 40 Glu Val Leu Gln Ser Leu Val Asp Asp Gly Met Val Asp Cys Glu Arg 55 Ile Gly Thr Ser Asn Tyr Tyr Trp Ala Phe Pro Ser Lys Ala Leu His 75 Ala Arg Lys His Lys Leu Glu Val Leu Glu Ser Gln Leu Ser Glu Gly 85 90 Ser Gln Lys His Ala Ser Leu Gln Lys Ser Ile Glu Lys Ala Lys Ile

10

170

125

140

155

100 105 110 Gly Arg Cys Glu Thr Glu Glu Arg Thr Arg Leu Ala Lys Glu Leu Ser

120

135

150

165

Ser Leu Arg Asp Gln Arg Glu Gln Leu Lys Ala Glu Val Glu Lys Tyr

Lys Asp Cys Asp Pro Gln Val Val Glu Ile Arg Gln Ala Asn Lys

Val Ala Lys Glu Ala Ala Asn Arg Trp Thr Asp Asn Ile Phe Ala Ile

115

Lys Ser Trp Ala Lys Arg Lys Phe Gly Phe Glu Glu Asn Lys Ile Asp 185 180 Arg Thr Phe Gly Ile Pro Glu Asp Phe Asp Tyr Ile Asp 195 200 <:210 > 15 <211> 126 <212> PRT <213> Homo Sapiens <400> 15 Met Ser Lys Lys Lys Gly Leu Ser Ala Glu Glu Lys Arg Thr Arg Met 10 Met Glu Ile Phe Ser Glu Thr Lys Asp Val Phe Gln Leu Lys Asp Leu 20 25 Glu Lys Ile Ala Pro Lys Glu Lys Gly Ile Thr Ala Met Ser Val Lys 40 Giu Val Leu Gln Ser Leu Val Asp Asp Gly Met Val Asp Cys Glu Arg 55 60 Ile Gly Thr Ser Asn Tyr Tyr Trp Ala Phe Pro Ser Lys Ala Leu His 70 75 Ala Arg Lys His Lys Leu Glu Val Leu Glu Ser Gln Asp Pro Gly Cys 8.5 90 Cys Phe His Glu Ile Ile Lys Val Ser Tyr Tyr Arg Lys Phe Trp Leu 100 105 Gly Ala Val Ala His Ala Cys Asn Pro Ser Thr Leu Gly Gly 115 120 <210> 16 <211> 119 <212> PRT <213> Homo Sapiens <400> 16 Met Lys Cys Lys Met Glu Leu Ser Glu Gly Ser Gln Lys His Ala Ser Leu Gln Lys Ser Ile Glu Lys Ala Lys Ile Gly Arg Cys Glu Thr Glu 25 Glu Arg Thr Arg Leu Ala Lys Glu Leu Ser Ser Leu Arg Asp Gln Arg 40 Glu Gln Leu Lys Ala Glu Val Glu Lys Tyr Lys Asp Cys Asp Pro Gln 55 Val Val Glu Glu Ile Arg Gln Ala Asn Lys Val Ala Lys Glu Ala Ala 75 Asn Arg Trp Thr Asp Asn Ile Phe Ala Ile Lys Ser Trp Ala Lys Arg 85 90 Lys Phe Gly Phe Glu Glu Asn Lys Ile Asp Arg Thr Phe Gly Ile Pro 100 105 Glu Asp Phe Asp Tyr Ile Asp 115 ·:210> 17 <211> 122 <212> PRT <213> Homo Sapiens <400> 17

Met Ser Lys Lys Gly Leu Ser Ala Glu Glu Lys Arg Thr Arg Met

```
Met Glu Ile Phe Ser Glu Thr Lys Asp Val Phe Gln Leu Lys Asp Leu
                                2.5
Glu Lys Ile Ala Pro Lys Glu Lys Gly Ile Thr Ala Met Ser Val Lys
                            40
Glu Val Leu Gln Ser Leu Val Asp Asp Gly Met Val Asp Cys Glu Arg
                       55
                                            60
Ile Gly Thr Ser Asn Tyr Tyr Trp Ala Phe Pro Ser Lys Ala Leu His
Ala Arg Lys His Lys Leu Glu Val Leu Glu Ser Gln Leu Ser Glu Gly
               85
                                   90
Ser Gln Lys His Ala Ser Leu Gln Lys Ser Ile Glu Lys Ala Lys Ile
                               105
Gly Arg Cys Glu Thr Ala Lys Gln Ile Lys
<210> 18
<211> 190
<212> PRT
<213> Homo Sapiens
<4005 18
Met Ser Lys Lys Gly Leu Ser Ala Glu Glu Lys Arg Thr Arg Met
                                    1.0
Met Glu Ile Phe Ser Glu Thr Lys Asp Val Phe Gln Leu Lys Asp Leu
            2.0
                                2.5
Glu Lys Ile Ala Pro Lys Glu Lys Gly Ile Thr Ala Met Ser Val Lys
                           40
                                                45
Glu Val Leu Gln Ser Leu Val Asp Asp Gly Met Val Asp Cys Glu Arg
                       55
                                            60
Ile Gly Thr Ser Asn Tyr Tyr Trp Ala Phe Pro Ser Lys Ala Leu His
                   70
                                        75
Ala Arg Lys His Lys Leu Glu Val Leu Glu Ser Gln Leu Ser Glu Gly
               85
                                90
Ser Gln Lys His Ala Ser Leu Gln Lys Ser Ile Glu Lys Ala Lys Ile
                               105
Gly Arg Cys Glu Thr Glu Glu Arg Thr Arg Leu Ala Lys Glu Leu Ser
                           120
                                               125
Ser Leu Arg Asp Gln Arg Glu Gln Leu Lys Ala Glu Val Glu Lys Tyr
                       135
                                            140
Lys Asp Cys Asp Pro Gln Val Val Glu Glu Ile His Asn Ile Phe Ala
                   150
                                        155
Ile Lys Ser Trp Ala Lys Arg Lys Phe Gly Phe Glu Glu Asn Lys Ile
                                    170
Asp Arg Thr Phe Gly Ile Pro Glu Asp Phe Asp Tyr Ile Asp
<210> 19
<211> 190
<212> PRT
<213> Homo Sapiens
<400> 19
Met Met Glu Ile Phe Ser Glu Thr Lys Asp Val Phe Gln Leu Lys Asp
1
                                    1.0
Leu Glu Lys Ile Ala Pro Lys Glu Lys Gly Ile Thr Ala Met Ser Val
            2.0
                                2.5
Lys Glu Val Leu Gln Ser Leu Val Asp Asp Gly Met Val Asp Cys Glu
                            4.0
```

10

```
Arg Ile Gly Thr Ser Asn Tyr Tyr Trp Ala Phe Pro Ser Lys Ala Leu
His Ala Arq Lys His Lys Leu Glu Val Leu Glu Ser Gln Leu Ser Glu
Gly Ser Gln Lys His Ala Ser Leu Gln Lys Ser Ile Glu Lys Ala Lys
               85
Ile Gly Arg Cys Glu Thr Glu Glu Arg Thr Arg Leu Ala Lys Glu Leu
           100
                               105
Ser Ser Leu Arg Asp Gln Arg Glu Gln Leu Lys Ala Glu Val Glu Lys
                           120
                                               125
       115
Tyr Lys Asp Cys Asp Pro Gln Val Val Glu Glu Ile Arg Gln Ala Asn
                                           140
                       135
   130
Lys Val Ala Lys Glu Ala Ala Asn Arg Trp Thr Asp Asn Ile Phe Ala
                   150
                                       155
Ile Lys Ser Trp Ala Lys Arg Lys Phe Gly Phe Glu Glu Asn Lys Ile
                                   170
               165
Asp Arg Thr Phe Gly Ile Pro Glu Asp Phe Asp Tyr Ile Asp
            180
                               185
<210> 20
<211> 205
<212> PRT
<213> Homo Sapiens
<400> 20
                                25
Glu Lys Ile Ala Pro Lys Glu Lys Gly Ile Thr Ala Met Ser Val Lys
```

Met Ser Lys Lys Gly Leu Ser Ala Glu Glu Lys Arg Thr Arg Met Met Glu Ile Phe Ser Glu Thr Lys Asp Val Phe Gln Leu Lys Asp Leu 40 Glu Val Leu Gln Ser Leu Val Asp Asp Gly Met Val Asp Cys Glu Arg 55 Ile Gly Thr Ser Asn Tyr Tyr Trp Ala Phe Pro Ser Lys Ala Leu His 70 75 Ala Arg Lys His Lys Leu Glu Val Leu Glu Ser Gln Leu Ser Glu Gly 90 85 Ser Gln Lys His Ala Ser Leu Gln Lys Ser Ile Glu Lys Ala Lys Ile 105 100 Gly Arg Cys Glu Thr Glu Glu Arg Thr Arg Leu Ala Lys Glu Leu Ser 120 125 115 Ser Leu Arg Asp Gln Arg Glu Gln Leu Lys Ala Glu Val Glu Lys Tyr 135 140 Lys Asp Cys Asp Pro Gln Val Val Glu Glu Ile Arg Gln Ala Asn Lys 150 155 Val Ala Lys Glu Ala Ala Asn Arg Trp Thr Asp Asn Ile Phe Ala Ile 170 165 Lys Ser Trp Ala Lys Arg Lys Phe Gly Phe Glu Glu Asn Lys Ile Asp 185 Arg Thr Phe Gly Ile Pro Glu Asp Phe Asp Tyr Ile Asp 195 200

```
<210> 21
```

<211> 205

Met Ser Lys Lys Gly Leu Ser Ala Glu Glu Lys Arg Thr Arg Met

^{:212&}gt; PRT

<213> Homo Sapiens

<400> 21

10 Met Glu Ile Phe Ser Glu Thr Lys Asp Val Phe Gln Leu Lys Asp Leu 2.5 Glu Lys Ile Ala Pro Lys Glu Lys Gly Ile Thr Ala Met Ser Val Lys 40 Glu Val Leu Gln Ser Leu Val Asp Asp Gly Met Val Asp Cys Glu Arg 5.5 60 Ile Gly Thr Ser Asn Tyr Tyr Trp Ala Phe Pro Ser Lys Ala Leu His 70 75 Ala Arq Lys His Lys Leu Glu Val Leu Glu Ser Gln Leu Ser Glu Gly 90 Ser Gln Lys His Ala Ser Leu Gln Lys Ser Ile Glu Lys Ala Lys Ile 105 Gly Arg Cys Glu Thr Glu Glu Arg Thr Arg Leu Ala Lys Glu Leu Ser 120 125 Ser Leu Arg Asp Gln Arg Glu Gln Leu Lys Ala Glu Val Glu Lys Tyr 135 140 Lys Asp Cys Asp Pro Gln Val Val Glu Ile Arg Gln Ala Asn Lys 150 155 Val Ala Lys Glu Ala Ala Asn Arg Trp Thr Asp Asn Ile Phe Ala Ile 170 165 Lys Ser Trp Ala Lys Arg Lys Phe Gly Phe Glu Glu Asn Lys Ile Asp 185 120 Arg Thr Phe Gly Ile Pro Glu Asp Phe Asp Tyr Ile Asp 200 <210> 22 <211> 205 <212> PRT <213> Homo Sapiens <400> 22 Met Ser Lys Lys Gly Leu Ser Ala Glu Glu Lys Arg Thr Arg Met Met Glu Ile Phe Ser Glu Thr Lys Asp Val Phe Gln Leu Lys Asp Leu 25 Glu Lys Ile Ala Pro Lys Glu Lys Gly Ile Thr Ala Met Ser Val Lys 40 Glu Val Leu Gln Ser Leu Val Asp Asp Gly Met Val Asp Cys Glu Arg Ile Gly Thr Ser Asn Tyr Tyr Trp Ala Phe Pro Ser Lys Ala Leu His

Ala Arg Lys His Lys Leu Glu Val Leu Glu Ser Gln Leu Ser Glu Gly 85 90 Ser Gln Lys His Ala Ser Leu Gln Lys Ser Ile Glu Lys Ala Lys Ile 105 Gly Arg Cys Glu Thr Glu Glu Arg Thr Arg Leu Ala Lys Glu Leu Ser 115 120 Ser Leu Arg Asp Gln Arg Glu Gln Leu Lys Ala Glu Val Glu Lys Tyr 135 140 Lys Asp Cys Asp Pro Gln Val Val Glu Glu Ile Arg Gln Ala Asn Lys 150 155 Val Ala Lys Glu Ala Ala Asn Arg Trp Thr Asp Asn Ile Phe Ala Ile 165 170 Lys Ser Trp Ala Lys Arg Lys Phe Gly Phe Glu Glu Asn Lys Ile Asp 180 185 Arg Thr Phe Gly Ile Pro Glu Asp Phe Asp Tyr Ile Asp 200

<211> 205 <212> PRT <213> Mus musculus <400> 23 Met Ser Lys Lys Arg Gly Leu Ser Gly Glu Glu Lys Arg Thr Arg Met Met Glu Ile Phe Phe Glu Thr Lys Asp Val Phe Gln Leu Lys Asp Leu Glu Lys Leu Ala Pro Lys Glu Lys Gly Ile Thr Ala Met Ser Val Lys 40 Glu Val Leu Gln Ser Leu Val Asp Asp Gly Met Val Asp Cys Glu Arg 55 60 Ile Gly Thr Ser Asn Tyr Tyr Trp Ala Phe Pro Ser Lys Ala Leu His 70 75 Ala Arg Lys Arg Lys Leu Glu Ala Leu Asn Ser Gln Leu Ser Glu Gly 90 85 Ser Gln Lys His Ala Asp Leu Gln Lys Ser Ile Glu Lys Ala Arg Val 100 105 Gly Arg Gln Glu Thr Glu Glu Arg Ala Met Leu Ala Lys Glu Leu Phe 115 120 125 Ser Phe Arg Asp Gln Arg Gln Gln Leu Lys Ala Glu Val Glu Lys Tyr 135 140 Arg Glu Cys Asp Pro Gln Val Val Glu Glu Ile Arg Glu Ala Asn Lys 150 155 Val Ala Lys Glu Ala Ala Asn Arg Trp Thr Asp Asn Ile Phe Ala Ile 165 170 Lys Ser Trp Ala Lys Arg Lys Phe Gly Phe Glu Glu Ser Lys Ile Asp 180 185 Lys Asn Phe Gly Ile Pro Glu Asp Phe Asp Tyr Ile Asp 200

<210> 24 <211> 198 <212> PRT

<210> 23

<213> Homo Sapiens

Lys Gly Leu Ser Ala Glu Glu Lys Arg Thr Arg Met Met Glu Ile Phe Ser Glu Thr Lys Asp Val Phe Gln Leu Lys Asp Leu Glu Lys Ile Ala 25 Pro Lys Glu Lys Gly Ile Thr Ala Met Ser Val Lys Glu Val Leu Gln 40 Ser Leu Val Asp Asp Gly Met Val Asp Cys Glu Arg Ile Gly Thr Ser 55 Asn Tyr Tyr Trp Ala Phe Pro Ser Lys Ala Leu His Ala Arg Lys His 70 75 Lys Leu Glu Val Leu Glu Ser Gln Leu Ser Glu Gly Ser Gln Lys His 90 Ala Ser Leu Gln Lys Ser Ile Glu Lys Ala Lys Ile Gly Arg Cys Glu 105 Thr Glu Glu Arg Thr Arg Leu Ala Lys Glu Leu Ser Ser Leu Arg Asp 120 Gln Arg Glu Gln Leu Lys Ala Glu Val Glu Lys Tyr Lys Asp C; s Asp 135 140 Pro Gln Val Val Glu Glu Ile Arg Gln Ala Asn Lys Val Ala Lys Glu 150 Ala Ala Asn Arg Trp Thr Asp Asn Ile Phe Ala Ile Lys Ser Trp Ala

```
170
              165
Lys Arg Lys Phe Gly Phe Glu Glu Asn Lys Ile Asp Arg Thr Phe Gly
          180
                       185
Ile Pro Glu Asp Phe Asp
       195
<210> 25
<211> 200
<212> PRT
<213> Schizosaccharomyces pombe
<400> 25
Lys Gly Leu Ser Leu Ala Glu Lys Arg Arg Leu Glu Ala Ile Phe
                                  10
His Asp Ser Lys Asp Phe Phe Gln Leu Lys Glu Val Glu Lys Leu Gly
                              25
          2.0
Ser Lys Lys Gln Ile Val Leu Gln Thr Val Lys Asp Val Leu Gln Ser
                                              45
                          40
Leu Val Asp Asp Asn Ile Val Lys Thr Glu Lys Ile Gly Thr Ser Asn
               55
Tyr Tyr Trp Ser Phe Pro Ser Asp Ala Lys Arg Ser Arg Glu Ser Val
                                      75
                  70
Leu Gly Ser Leu Gln Ala Gln Leu Asp Asp Leu Lys Gln Lys Ser Lys
              85
                                 90
Thr Leu Asp Glu Asn Ile Ser Phe Glu Lys Ser Lys Arg Asp Asn Glu
                             105
Gly Thr Glu Asn Asp Ala Asn Gln Tyr Thr Leu Glu Leu Leu His Ala
                          120
                                  125
Lys Glu Ser Glu Leu Lys Leu Leu Lys Thr Gln Leu Ser Asn Leu Asn
His Cys Asn Pro Glu Thr Phe Glu Leu Lys Asn Glu Asn Thr Lys Lys
                   150
Tyr Met Glu Ala Ala Asn Leu Trp Thr Asp Gln Ile His Thr Leu Ile
                                  170
               165
Ala Phe Cys Arg Asp Met Gly Ala Asp Thr Asn Gln Ile Arg Glu Tyr
                              185
           180
Cys Ser Ile Pro Glu Asp Leu Asp
     195
<210> 26
<211> 14
<212> PRT
<213> Clostridiumn toxi
<400> 26
Gln Tyr Ile Lys Ala Asn Ser Lys Phe Ile Gly Ile Thr Glu
1 5
<210> 27
<211> 21
<212> PRT
<213> Plasmodium falciparum
<400> 27
Asp Ile Glu Lys Lys Ile Ala Lys Met Glu Lys Ala Ser Ser Val Phe
               5
                            10
1
Asn Val Val Asn Ser
```

20

```
<210> 28
<:211> 16
4:212: PRT
<213> Streptococcus aureus
<400: 28
Gly Ala Val Asp Ser Ile Leu Gly Gly Val Ala Thr Tyr Gly Ala Ala
                                    10
<210> 29
<211: 13
<212> PRT
<213> Artificial Sequence
<220>
<223> Artificially Synthesized Peptide
<221> VARIANT
<222> 3
<223> Xaa - cyclohexylalanine, phenylalanine, or
     tyrosine
<221> VARIANT
<222> 1, 13
<223 > Xaa = D-alanine or L-alanine
<400> 29
Xaa Lys Xaa Val Ala Ala Trp Thr Leu Lys Ala Ala Xaa
                 5
<210> 30
<211> 43
<212> DNA
<213> Homo Sapiens
<400> 30
                                                                    43
ttttgatcaa gcttttttt tttttttt tttttttt ttt
<210> 31
<211> 42
<212> DNA
<213> Homo Sapiens
<400> 31
                                                                    42
ctaatacgac tcactatagg gctcgagcgg ccgcccgggc ag
<210> 32
<211> 12
<212> DNA
<213> Homo Sapiens
<400> 32
                                                                    12
gatectgece gg
<210> 33
< 211> 40
<212> DNA
```

<213> Homo	Sapiens			
<400>-33 gtaatacgac	tcactatagg	gcagcgtggt	cgcggccgag	40
<210> 34 <211> 10 <212> DNA <213> Homo	Sapiens			
<400> 34 gatcctcggc				10
<210> 35 <211> 22 <212> DNA <213> Homo	Sapiens			
<400> 35 ctaatacgac	tcactatagg	gc		22
<210> 36 <211> 22 <212> DNA <213> Homo	Sapiens			
<400> 36 tcgagcggcc	gcccgggcag	ga		22
<210> 37 <211> 20 <212> DNA <213> Homo	Sapiens			
<400> 37 agcgtggtcg	cggccgagga			20
<210> 38 <211> 25 <212> DNA <213> Homo	Sapiens			
<400> 38 atategeege	gctcgtcgtc	gacaa		25
<210> 39 <211> 26 <212> DNA <213> Homo	Sapiens			
<4005-39 agddadadgd	agctcattgt	agaagg		26
<210 > 40 <211 > 24 <212 > DNA <213 > Homo	Sapiens			
<400> 40 yallacaayy	atyacyacya	taag		24

```
<210> 41
<211> 1028
<212> DNA
<213> Homo Sapiens
<400> 41
ccaaaatcaa acgcgtccgg gcctgtcccg cccctctccc caagcgcggg cccggccagc 60
ggaagcccct gcgcccgcgc catgtcaaag aaaaaaggac tgagtgcaga agaaaagaga 120
actegeatga tygaaatatt ttetgaaaca aaagatgtat tteaattaaa agaettygag 180
aagattgctc ccaaagagaa aggcattact gctatgtcag taaaagaagt ccttcaaagc 240
ttagttgatg atggtatggt tgactgtgag aggatcggaa cttctaatta ttattgggct 300
tttccaagta aagctcttca tgcaaggaaa cataagttgg aggttctgga atctcaggac 360
cctggctgct gcttccatga aataattaaa gtctcctatt atagaaaatt ctggctgggc 420
gcagtggctc acgcctgtaa tcccagcact ttgggaggct gaggcgggca gatcacgagg 480
tgactttccc ccaccccac atgaagtgca agatggagtt gtctgaggga agtcaaaagc 540
atgcaagcct acagaaaagc attgagaaag ctaaaattgg ccgatgtgaa acggaagagc 600
gaaccagget agcaaaagag etttetteae ttegagacca aagggaacag etaaaggeag 660
aagtagaaaa atacaaagac tgtgatccgc aagttgtgga agaaatacgc caagcaaata 720
aagtagccaa agaagctgct aacagatgga ctgataacat attcgcaata aaatcttggg 780
ccaaaagaaa atttgggttt gaagaaaata aaattgatag aacttttgga attccagaag 840
actttgacta catagactaa aatattccat ggtggtgaag gatgtacaag cttgtgaata 900
tgtaaatttt aaactattat ctaactaagt gtactgaatt gtcgtttgcc tgtaactgtg 960
tttatcattt tattaatgit aaaraaagig raaaargcaa aaaaaaaaaa aaaaaaaaaa 1020
aaaaaaa
                                                                  1028
<210> 42
<211> 869
<212> DNA
<213> Homo Sapiens
<400> 42
ccaaaatcaa acgcgtccgg gcctgtcccg cccctctccc caagcgcggg cccggccagc 60
ggaageeest gegeeegege catgteaaag aaaaaaggae tgagtgeaga agaaaagaga 120
actcgcatga tggaaatatt ttctgaaaca aaagatgtat ttcaattaaa agacttggag 180
aagattgete eeaaagagaa aggeattaet getatgteag taaaagaagt eetteaaage 240
ttagttgatg atggtatggt tgactgtgag aggatcggaa cttctaatta ttattgggct 300
tttccaagta aagctcttca tgcaaggaaa cataagttgg aggttctgga atctcagagt 360
tgtctgaggg aagtcaaaag catgcaagcc tacagaaaag cattgagaaa gctaaaattg 420
gccgatgtga aacggaagag cgaaccaggc tagcaaaaga gctttcttca cttcgagacc 480
aaagggaaca gctaaaggca gaagtagaaa aatacaaaga ctgtgatccg caagttgtgg 540
aagaaatacg ccaagcaaat aaagtagcca aagaagctgc taacagatgg actgataaca 600
tattcgcaat aaaatcttgg gccaaaagaa aatttgggtt tgaagaaaat aaaattgata 660
gaacttttgg aattccagaa gactttgact acatagacta aaatattcca tggtggtgaa 720
ggatgtacaa gcttgtgaat atgtaaattt taaactatta tctaactaag tgtactgaat 780
tgtcgtttgc ctgtaactgt gtttatcatt ttattaatgt taaataaagt gtaaaatgca 840
aaaaaaaaa aaaaaaaaaa aaaaaaaaa
<210> 43
<211> 869
<212> DNA
<213> Homo Sapiens
<400> 43
ccaaaatcaa acgcgtccgg gcctgtcccg cccctctccc caagcgcggg cccggccagc 60
ggaagcccct gcgcccgcgc catgtcaaag aaaaaaggac tgagtgcaga agaaaagaga 120
actegeatga tggaaatatt ttetgaaaca aaagatgtat tteaattaaa agaettggag 180
aagattgctc ccaaagagaa aggcattact gctatgtcag taaaagaagt ccttcaaagc 240
ttagttgatg atggtatggt tgactgtgag aggatcggaa cttctaatta ttattgggct 300
tttccaagta aagctcttca tgcaaggaaa cataagttgg aggttctgga atctcagagt 360
tgtctgaggg aagtcaaaag catgcaagco lacagaaaag callgagaaa gclaaaallg 420
gccgatgtga aacggaagag cgaaccaggc tagcaaaaga gctttcttca cttcgagacc 480
```

aaagggaaca gctaaaggca gaagtagaaa aatacaaaga ctgtgatccg caagttgtgg 540 aagaaatacg ccaagcaaat aaagtagcca aagaagctgc taacagatgg actgataaca 600 tattcgcaat aaaatcttgg gccaaaagaa aatttgggtt tgaagaaaat aaaattgata 660 gaacttttgg aattccagaa gactttgact acatagacta aaatattcca tggtggtgaa 720 ggatgtacaa gcttgtgaat atgtaaattt taaactatta tctaactaag tgtactgaat 780 tgtcgtttgc ctgtaactgt gtttatcatt ttattaatgt taaataaagt gtaaaatgca 840 aaaaaaaaa aaaaaaaaa <210> 44 <211> 206 <212> PRT <213> Homo Sapiens <400> 44 Met Ser Lys Lys Gly Leu Ser Ala Glu Glu Lys Arg Thr Arg Met Met Glu Ile Phe Ser Glu Thr Lys Asp Val Phe Gln Leu Lys Asp Leu 20 25 Glu Lys Ile Ala Pro Lys Glu Lys Gly Ile Thr Ala Met Ser Val Lys 40 Glu Val Leu Gln Ser Leu Val Asp Asp Gly Met Val Asp Cys Glu Arg 55 60 Ile Gly Thr Ser Asn Tyr Tyr Trp Ala Phe Pro Ser Lys Ala Leu His 70 75 Ala Arg Lys His Lys Leu Glu Val Leu Glu Ser Gln Gln Leu Ser Glu 85 90 Gly Ser Gln Lys His Ala Ser Leu Gln Lys Ser Ile Glu Lys Ala Lys 100 105 Ile Gly Arg Cys Glu Thr Glu Glu Arg Thr Arg Leu Ala Lys Glu Leu 120 125 Ser Ser Leu Arg Asp Gln Arg Glu Gln Leu Lys Ala Glu Val Glu Lys 135 140 Tyr Lys Asp Cys Asp Pro Gln Val Val Glu Glu Ile Arg Gln Ala Asn 150 155 Lys Val Ala Lys Glu Ala Ala Asn Arg Trp Thr Asp Asn Ile Phe Ala 165 170 Ile Lys Ser Trp Ala Lys Arg Lys Phe Gly Phe Glu Glu Asn Lys Ile 185 Asp Arg Thr Phe Gly Ile Pro Glu Asp Phe Asp Tyr Ile Asp 200 <210> 45 <211> 206 <212> PRT <213> Homo Sapiens <400> 45 Met Ser Lys Lys Gly Leu Ser Ala Glu Glu Lys Arg Thr Arg Met 10 Met Glu Ile Phe Ser Glu Thr Lys Asp Val Phe Gln Leu Lys Asp Leu 20 25 Glu Lys Ile Ala Pro Lys Glu Lys Gly Ile Thr Ala Met Ser Val Lys 40 Glu Val Leu Gln Ser Leu Val Asp Asp Gly Met Val Asp Cys Glu Arg Ile Gly Thr Ser Asn Tyr Tyr Trp Ala Phe Pro Ser Lys Ala Leu His 70 75 Ala Arg Lys His Lys Leu Glu Val Leu Glu Ser Gln Glu Leu Ser Glu 90

Gly Ser Gln Lys His Ala Ser Leu Gln Lys Ser Ile Glu Lys Ala Lys

```
100
                               105
                                                   110
Ile Gly Arg Cys Glu Thr Glu Glu Arg Thr Arg Leu Ala Lys Glu Leu
                    120
Ser Ser Leu Arg Asp Gln Arg Glu Gln Leu Lys Ala Glu Val Glu Lys
                       135
Tyr Lys Asp Cys Asp Pro Gln Val Val Glu Glu Ile Arg Gln Ala Asn
                  150
                                       155
Lys Val Ala Lys Glu Ala Ala Asn Arg Trp Thr Asp Asn Ile Phe Ala
               165
                                   170
Ile Lys Ser Trp Ala Lys Arg Lys Phe Gly Phe Glu Glu Asn Lys Ile
                               185
Asp Arg Thr Phe Gly Ile Pro Glu Asp Phe Asp Tyr Ile Asp
                            200
<210> 46
<211> 126
<212> PRT
<213> Homo Sapiens
<400> 46
Met Ser Lys Lys Gly Leu Ser Ala Glu Glu Lys Arg Thr Arg Met
                                    10
Met Glu Ile Phe Ser Glu Thr Lys Asp Val Phe Gln Leu Lys Asp Leu
           20
Glu Lys Ile Ala Pro Lys Glu Lys Gly Ile Thr Ala Met Ser Val Lys
                            40
                                                45
Glu Val Leu Gln Ser Leu Val Asp Asp Gly Met Val Asp Cys Glu Arq
                        55
                                           60
Ile Gly Thr Ser Asn Tyr Tyr Trp Ala Phe Pro Ser Lys Ala Leu His
                   7.0
                                       75
Ala Arg Lys His Lys Leu Glu Val Leu Glu Ser Gln Asp Pro Gly Cys
               85
                                   90
Cys Phe His Glu Ile Ile Lys Val Ser Tyr Tyr Arg Lys Phe Trp Leu
                            105
          100
Gly Ala Val Ala His Ala Cys Asn Pro Ser Thr Leu Gly Gly
                           120
<210> 47
<211> 119
<212> PRT
<213> Homo Sapiens
<400> 47
Met Lys Cys Lys Met Glu Leu Ser Glu Gly Ser Gln Lys His Ala Ser
                                   1.0
Leu Gln Lys Ser Ile Glu Lys Ala Lys Ile Gly Arg Cys Glu Thr Glu
           2.0
                               25
Glu Arg Thr Arg Leu Ala Lys Glu Leu Ser Ser Leu Arg Asp Gln Arg
                           40
Glu Gln Leu Lys Ala Glu Val Glu Lys Tyr Lys Asp Cys Asp Pro Gln
                       55
Val Val Glu Glu Ile Arg Gln Ala Asn Lys Val Ala Lys Glu Ala Ala
                   70
                                       75
Asn Arg Trp Thr Asp Asn Ile Phe Ala Ile Lys Ser Trp Ala Lys Arg
                                    90
Lys Phe Gly Phe Glu Glu Asn Lys Ile Asp Arg Thr Phe Gly Ile Pro
         100
Clu Asp Phe Asp Tyr Ile Asp
      115
```

```
<210> 48
<211> 752
<212> DNA
<213> Homo Sapiens
<400> 48
ccaaaatcaa acgcgtccgg gcctgtcccg cccctctccc caagcgcggg cccggccagc 60
ggaagcccct gcgcccgcgc catgtcaaag aaaaaaggac tgagtgcaga agaaaagaga 120
actcgcatga tggaaatatt ttctgaaaca aaagatgtat ttcaattaaa agacttggag 180
aagattgctc ccaaagagaa aggcattact gctatgtcag taaaagaagt ccttcaaagc 240
ttagttgatg atggtatggt tgactgtgag aggatcggaa cttctaatta ttattgggct 300
tttccaagta aagetettea tgcaaggaaa cataagttgg aggttetgga ateteagttg 360
tctgagggaa gtcaaaagca tgcaagccta cagaaaagca ttgagaaagc taaaattggc 420
cgatgtgaaa cggccaagca aataaagtag ccaaagaagc tgctaacaga tggactgata 480
acatattcgc aataaaatct tgggccaaaa gaaaatttgg gtttgaagaa aataaaattg 540
atagaacttt tggaattcca gaagactttg actacataga ctaaaatatt ccatggtggt 600
gaaggatgta caagcttgtg aatatgtaaa ttttaaacta ttatctaact aagtgtactg 660
aattgtcgtt tgcctgtaac tgtgtttatc attttattaa tgttaaataa agtgtaaaat 720
                                                                  752
gcaaaaaaa aaaaaaaaa aa
<210> 49
<211> 433
<212> DNA
<213> Homo Sapiens
<400> 49
ccaaaatcaa acgcgtccgg gcctgtcccg cccctctccc caagcgcggg cccggccagc 60
ggaagcccct gcgcccgcgc catgtcaaag aaaaaaggac tgagtgcaga agaaaagaga 120
actogoatga tggaaatatt ttotgaaaca aaagatgtat ttoaattaaa agacttggag 180
aagattgctc ccaaagagaa aggcattact gctatgtcag taaaagaagt ccttcaaagc 240
ttagttgatg atggtatggt tgactgtgag aggatcggaa cttctaatta ttattgggct 300
tttccaagta aagctcttca tgcaaggaaa cataagttgg aggttctgga atctcagttg 360
tctgagggaa gtcaaaagca tgcaagccta cagaaaagca ttgagaaagc taaaattggc 420
cgatgtgaaa cgg
<210> 50
<211> 433
<212> DNA
<213> Homo Sapiens
<400> 50
ccaaaatcaa acgcgtccgg gcctgtcccg cccctctccc caagcgcggg cccggccagc 60
ggaagcccct gcgcccgcgc catgtcaaag aaaaaaggac tgagtgcaga agaaaagaga 120
actogoatga tggaaatatt ttotgaaaca aaagatgtat ttoaattaaa agacttggag 180
aagattgctc ccaaagagaa aggcattact gctatgtcag taaaagaagt ccttcaaagc 240
ttagttgatg atggtatggt tgactgtgag aggatcggaa cttctaatta ttattgggct 300
tttccaagta aagctcttca tgcaaggaaa cataagttgg aggttctgga atctcagttg 360
tctgagggaa gtcaaaagca tgcaagccta cagaaaagca ttgagaaagc taaaattggc 420
cgatgtgaaa cgg
                                                                  433
<210> 51
<211> 320
<212> DNA
<213> Homo Sapiens
<400> 51
gccaagcaaa taaagtagcc aaagaagctg ctaacagatg gactgataac atattcgcaa 60
taaaatcttg ggccaaaaga aaatttgggt ttgaagaaaa taaaattgat agaacttttg 120
gaattccaga agactttgac tacatagact aaaatattcc atggtggtga aggatgtaca 180
```

```
agcttgtgaa tatgtaaatt ttaaactatt atctaactaa gtgtactgaa ttgtcgtttg 240
aaaaaaaaa aaaaaaaaaa
<210> 52
<211> 320
<212> DNA
<213> Homo Sapiens
<400> 52
gccaagcaaa taaagtagcc aaagaagctg ctaacagatg gactgataac atattcgcaa 60
taaaatcttg ggccaaaaga aaatttgggt ttgaagaaaa taaaattgat agaacttttg 120
gaattccaga agactttgac tacatagact aaaatattcc atggtggtga aggatgtaca 180
agcttqtqaa tatqtaaatt ttaaactatt atctaactaa qtqtactqaa ttqtcqtttq 240
aaaaaaaaa aaaaaaaaaa
<210> 53
<211> 122
<212> PRT
<213> Homo Sapiens
Met Ser Lys Lys Gly Leu Ser Ala Glu Glu Lys Arg Thr Arg Met
                                 1.0
Met Glu Ile Phe Ser Glu Thr Lys Asp Val Phe Gln Leu Lys Asp Leu
           20
                             25
Glu Lys Ile Ala Pro Lys Glu Lys Gly Ile Thr Ala Met Ser Val Lys
                          40
                                            45
Glu Val Leu Gln Ser Leu Val Asp Asp Gly Met Val Asp Cys Glu Arg
                      55
                                        60
Ile Gly Thr Ser Asn Tyr Tyr Trp Ala Phe Pro Ser Lys Ala Leu His
                  70
                                     75
Ala Arg Lys His Lys Leu Glu Val Leu Glu Ser Gln Leu Ser Glu Gly
              85
                                 90
Ser Gln Lys His Ala Ser Leu Gln Lys Ser Ile Glu Lys Ala Lys Ile
          100
                             105
Gly Arg Cys Glu Thr Glu Glu Arg Thr Arg
       115
                          120
<210> 54
<211> 122
<212> PRT
<213> Homo Sapiens
<400> 54
Met Ser Lys Lys Gly Leu Ser Ala Glu Glu Lys Arg Thr Arg Met
                                 10
Met Glu Ile Phe Ser Glu Thr Lys Asp Val Phe Gln Leu Lys Asp Leu
                             2.5
Glu Lys Ile Ala Pro Lys Glu Lys Gly Ile Thr Ala Met Ser Val Lys
                          40
Glu Val Leu Gln Ser Leu Val Asp Asp Gly Met Val Asp Cys Glu Arg
                      55
Ile Gly Thr Ser Asn Tyr Tyr Trp Ala Phe Pro Ser Lys Ala Leu His
                  70
                                     75
Ala Arg Lys His Lys Leu Glu Val Leu Glu Ser Gln Leu Ser Glu Gly
              85
                                 90
Ser Gln Lys His Ala Ser Leu Gln Lys Ser Ile Glu Lys Ala Lys Ile
           100
                             105
```

115 <210> 55 <211> 122 <212> PP.T <213> Homo Sapiens <400> 55 Met Ser Lys Lys Gly Leu Ser Ala Glu Glu Lys Arg Thr Arg Met 1.0 Met Glu Ile Phe Ser Glu Thr Lys Asp Val Phe Gln Leu Lys Asp Leu 20 25 Glu Lys Ile Ala Pro Lys Glu Lys Gly Ile Thr Ala Met Ser Val Lys 4.0 Glu Val Leu Gln Ser Leu Val Asp Asp Gly Met Val Asp Cys Glu Arg 60 55 Ile Gly Thr Ser Asn Tyr Tyr Trp Ala Phe Pro Ser Lys Ala Leu His 70 75 Ala Arg Lys His Lys Leu Glu Val Leu Glu Ser Gln Leu Ser Glu Gly 85 90 Ser Gln Lys His Ala Ser Leu Gln Lys Ser Ile Glu Lys Ala Lys Ile 105 Gly Arg Cys Glu Thr Ala Lys Gln Ile Lys 115 120 <210> 56 <211> 822 <212> DNA <213> Homo Sapiens <400> 56 ccaaaatcaa acqcqtccqq qcctqtcccq ccctctccc caaqcqcggg cccggccagc 60 qqaaqccct qcqccqcqc catqtcaaaq aaaaaaqqac tqaqtqcaga agaaaagaga 120 actogoatga tggaaatatt ttotgaaaca aaagatgtat ttoaattaaa agacttggag 180 aagattgctc ccaaagagaa aggcattact gctatgtcag taaaagaagt ccttcaaagc 240 ttagttgatg atggtatggt tgactgtgag aggatcggaa cttctaatta ttattgggct 300 tttccaagta aagctcttca tgcaaggaaa cataagttgg aggttctgga atctcagttg 360 tctgagggaa gtcaaaagca tgcaagccta cagaaaagca ttgagaaagc taaaattggc 420 cgatgtgaaa cggaagagcg aaccaggcta gcaaaagagc tttcttcact tcgagaccaa 480 agggaacagc taaaggcaga agtagaaaaa tacaaagact gtgatccgca agttgtggaa 540 gaaatacata acatattcgc aataaaatct tgggccaaaa gaaaatttgg gtttgaagaa 600 aataaaattg atagaacttt tggaattcca gaagactttg actacataga ctaaaaatatt 660 ccatggtggt gaaggatgta caagcttgtg aatatgtaaa ttttaaacta ttatctaact 720 aagtgtactg aattgtcgtt tgcctgtaac tgtgtttatc attttattaa tgttaaataa 780 822 agtgtaaaat gcaaaaaaaa aaaaaaaaaa aa <210> 57 <211> 547 <212> DNA <213> Homo Sapiens <400> 57 ccaaaatcaa acgcgtccgg gcctgtcccg ccctctccc caagcgcggg cccggccagc 60 ggaageeest gegeeegege catgteaaag aaaaaaggae tgagtgeaga agaaaagaga 120 actogoatga tggaaatatt ttotgaaaca aaagatgtat ttoaattaaa agacttggag 180 aagattgctc ccaaagagaa aggcattact gctatgtcag taaaagaagt ccttcaaagc 240 ttayttyaty atgytatygi tyactytyay aggateyyaa ettetaatta ttattygyet 300 tttccaagta aagctcttca tgcaaggaaa cataagttgg aggttctgga atctcagttg 360

Gly Arg Cys Glu Thr Ala Lys Gln Ile Lys

```
totgagggaa gtoaaaagca tgoaagcota cagaaaagca ttgagaaagc taaaattggo 420
cgatgtgaaa cggaagagcg aaccaggcta gcaaaagagc tttcttcact tcgagaccaa 480
agggaacagc taaaggcaga agtagaaaaa tacaaagact gtgatccqca agttgtgqaa 540
gaaatac
<:210> 58
<211> 547
<212> DNA
<213> Homo Sapiens
<400> 58
ccaaaatcaa acgcgtccgg gcctgtcccg ccctctccc caagcgcggg cccggccage 60
ggaagcccct gcgcccgcgc catgtcaaag aaaaaaggac tgagtgcaga aqaaaagaga 120
actogoatga tggaaatatt ttotgaaaca aaagatgtat ttoaattaaa aqaottqqaq 180
aagattgctc ccaaagagaa aggcattact gctatgtcag taaaagaagt ccttcaaagc 240
ttagttgatg atggtatggt tgactgtgag aggatcggaa cttctaatta ttattgggct 300
tttccaagta aagctcttca tgcaaggaaa cataagttgg aggttctgga atctcagttg 360
tctgagggaa gtcaaaagca tgcaagccta cagaaaagca ttgagaaagc taaaattggc 420
cgatgtgaaa cggaagagcg aaccaggcta gcaaaagagc tttcttcact tcgagaccaa 480
agggaacagc taaaggcaga agtagaaaaa tacaaagact gtgatccgca agttgtggaa 540
gaaatac
<210> 59
<211> 275
<212> DNA
<213> Homo Sapiens
<400> 59
ataacatatt cgcaataaaa tcttgggcca aaagaaaatt tgggtttgaa gaaaataaaa 60
ttgatagaac ttttggaatt ccagaagact ttgactacat agactaaaat attccatggt 120
ggtgaaggat gtacaagctt gtgaatatgt aaattttaaa ctattatcta actaagtgta 180
ctgaattgtc gtttgcctgt aactgtgttt atcattttat taatgttaaa taaagtgtaa 240
aatgcaaaaa aaaaaaaaa aaaaaa aaaaa
<210> 60
<211> 275
<212> DNA
<213> Homo Sapiens
<400> 60
ataacatatt cgcaataaaa tettgggeea aaagaaaatt tgggtttgaa gaaaataaaa 60
ttgatagaac ttttggaatt ccagaagact ttgactacat agactaaaat attccatggt 120
ggtgaaggat gtacaagctt gtgaatatgt aaattttaaa ctattatcta actaagtgta 180
ctgaattgtc gtttgcctgt aactgtgttt atcattttat taatgttaaa taaagtgtaa 240
aatgcaaaaa aaaaaaaaa aaaaaaaaa aaaaa
<210> 61
<211> 205
<212> PRT
<213> Homo Sapiens
<400> 61
Met Ser Lys Lys Gly Leu Ser Ala Glu Glu Lys Arg Thr Arg Met
                                    10
Met Glu Ile Phe Ser Glu Thr Lys Asp Val Phe Gln Leu Lys Asp Leu
            20
                                25
Glu Lys Ile Ala Pro Lys Glu Lys Gly Ile Thr Ala Met Ser Val Lys
                            40
Glu Val Leu Gln Ser Leu Val Asp Asp Gly Met Val Asp Cys Glu Arg
                        55
Ile Gly Thr Ser Asn Tyr Tyr Trp Ala Phe Pro Ser Lys Ala Leu His
```

```
65
                   70
                                       75
Ala Arg Lys His Lys Leu Glu Val Leu Glu Ser Gln Leu Ser Glu Gly
                        90
         85
Ser Gln Lys His Ala Ser Leu Gln Lys Ser Ile Glu Lys Ala Lys Ile
          100
                              105
Gly Arg Cys Glu Thr Glu Glu Arg Thr Arg Leu Ala Lys Glu Leu Ser
                          120
Ser Leu Arg Asp Gln Arg Glu Gln Leu Lys Ala Glu Val Glu Lys Tyr
                      135
Lys Asp Cys Asp Pro Gln Val Val Glu Glu Ile Arg Gln Ala Asn Lys
                  150
                                      155
Val Ala Lys Glu Ala Ala Asn Arg Trp Thr Asp Asn Ile Phe Ala Ile
                                  170
               165
Lys Ser Trp Ala Lys Arg Lys Phe Gly Phe Glu Glu Asn Lys Ile Asp
          180
                              185
Arg Thr Phe Gly Ile Pro Glu Asp Phe Asp Tyr Ile Asp
                           200
<210> 62
<211> 190
<212> PRT
<213> Homo Sapiens
<400> 62
Met Ser Lys Lys Gly Leu Ser Ala Glu Glu Lys Arg Thr Arg Met
                                   10
Met Glu Ile Phe Ser Glu Thr Lys Asp Val Phe Gln Leu Lys Asp Leu
           20
                               25
Glu Lys Ile Ala Pro Lys Glu Lys Gly Ile Thr Ala Met Ser Val Lys
Glu Val Leu Gln Ser Leu Val Asp Asp Gly Met Val Asp Cys Glu Arg
                       55
Ile Gly Thr Ser Asn Tyr Tyr Trp Ala Phe Pro Ser Lys Ala Leu His
                   7.0
                                       75
Ala Arg Lys His Lys Leu Glu Val Leu Glu Ser Gln Leu Ser Glu Gly
               85
                                  90
Ser Gln Lys His Ala Ser Leu Gln Lys Ser Ile Glu Lys Ala Lys Ile
                              105
          100
Gly Arg Cys Glu Thr Glu Glu Arg Thr Arg Leu Ala Lys Glu Leu Ser
       115
                          120
                                              125
Ser Leu Arg Asp Gln Arg Glu Gln Leu Lys Ala Glu Val Glu Lys Tyr
                       135
                                          140
Lys Asp Cys Asp Pro Gln Val Val Glu Glu Ile His Asn Ile Phe Ala
            150
                                      155
Ile Lys Ser Trp Ala Lys Arg Lys Phe Gly Phe Glu Glu Asn Lys Ile
                                  170
              165
Asp Arg Thr Phe Gly Ile Pro Glu Asp Phe Asp Tyr Ile Asp
                               185
<210> 63
<211> 190
<212> PET
<213> Homo Sapiens
<400> 63
Met Ser Lys Lys Gly Leu Ser Ala Glu Glu Lys Arg Thr Arg Met
           5
                                  10
Met Glu Ile Phe Ser Glu Thr Lys Asp Val Phe Gln Leu Lys Asp Leu
           20
                               25
```

```
Glu Lys Ile Ala Pro Lys Glu Lys Gly Ile Thr Ala Met Ser Val Lys
Glu Val Leu Gln Ser Leu Val Asp Asp Gly Met Val Asp Cys Glu Arg
Ile Gly Thr Ser Asn Tyr Tyr Trp Ala Phe Pro Ser Lys Ala Leu His
Ala Arg Lys His Lys Leu Glu Val Leu Glu Ser Gln Leu Ser Glu Gly
                                    90
Ser Gln Lys His Ala Ser Leu Gln Lys Ser Ile Glu Lys Ala Lys Ile
                                105
            100
Gly Arg Cys Glu Thr Glu Glu Arg Thr Arg Leu Ala Lys Glu Leu Ser
                            120
Ser Leu Arg Asp Gln Arg Glu Gln Leu Lys Ala Glu Val Glu Lys Tyr
                        135
Lys Asp Cys Asp Pro Gln Val Val Glu Glu Ile His Asn Ile Phe Ala
145
                    150
                                        155
Ile Lys Ser Trp Ala Lys Arg Lys Phe Gly Phe Glu Glu Asn Lys Ile
                165
                                    170
Asp Arg Thr Phe Gly Ile Pro Glu Asp Phe Asp Tyr Ile Asp
            180
                                185
< 210 > 64
<211> 1205
<212> DNA
<213> Homo Sapiens
<400> 64
qttttctqta ttqtaatatq taqaqcacat tccaqaactg ctcagtttcg agttacctaa 60
tggatottoa otgtgtgoda attagtogat ttotgtgaaa acgoocoggt ttotgodaaa 120
gggcaggagt cgctgctctt gtgccgggtg ctgctggttg tgtagggcgc tgttgctttt 180
ttaaggacgc totgcactga attaggotto otogtgggto atgatcagtt aagtootgto 240
aaagaaaaaa ggactgagtg cagaagaaaa gagaactcgc atgatggaaa tattttctga 300
aacaaaagat gtatttcaat taaaagactt ggagaagatt gctcccaaag agaaaggcat 360
tactgctatg tcagtaaaag aagtccttca aagcttagtt gatgatggta tggttgactg 420
tgagaggatc ggaacttcta attattattg ggcttttcca agtaaagctc ttcatgcaag 480
gaaacataag ttggaggttc tggaatctca gttgtctgag ggaagtcaaa agcatgcaag 540
cctacagaaa agcattgaga aagctaaaat tggccgatgt gaaacggaag agcgaaccag 600
gctagcaaaa gagctttctt cacttcgaga ccaaagggaa cagctaaagg cagaagtaga 660
aaaatacaaa gactgtgatc cgcaagttgt ggaagaaata cgccaagcaa ataaagtagc 720
caaagaagct gctaacagat ggactgataa catattcgca ataaaatctt gggccaaaag 780
aaaatttggg tttgaagaaa ataaaattga tagaactttt ggaattccag aagactttga 840
ctacatagac taaaatattc catggtggtg aaggatgtac aagcttgtga atatgtaaat 900
tttaaactat tatctaacta agtgtactga attgtcgttt gcctgtaact gtgtttatca 960
ttttattaat qttaaataaa qtqtaaaatg cagatgttct tcaccccttt tggtagaaca 1020
aaagcaggat gataaccata tccccccagt gctcatcaaa gtaggacact aaaaatccat 1080
ccatctcagt caaagtcgag cggccgcgaa tttagtagta gtagcggccg ctctagagga 1140
tccaagetta egtacgegtg catgegaegt catagetett etatagtgte acetaaatte 1200
                                                                   1205
aagtt
<310> 65
<211> 756
<212> DNA
<213> Homo Sapiens
<400> 65
tgtcaaagaa aaaaggactg agtgcagaag aaaagagaac tcgcatgatg gaaatatttt 60
ctqaaacaaa agatqtattt caattaaaaq acttqqaqaa qattqctccc aaagagaaag 120
qcattactqc tatqtcaqta aaaqaaqtcc ttcaaaqctt agttqatqat qqtatqqttq 180
actgtgagag gatcggaact totaattatt attgggottt tocaagtaaa gotottoatg 240
```

caaggaaaca taagttggag gttctggaat ctcagttgtc tgagggaagt caaaagcatg 300

```
caageetaca gaaaageatt gagaaageta aaattggeeg atgtgaaacq gaagagegaa 360
ccaggetage aaaagagett tetteaette gaqaecaaaag qqaacaqeta aaqqeaqaaq 420
tagaaaaata caaagactgt gatccgcaag ttgtggaaga aatacgccaa gcaaataaag 480
tagocaaaga agotgotaac agatggactg ataacatatt ogcaataaaa tottqqqoca 540
aaagaaaatt tgggtttgaa gaaaataaaa ttgatagaac ttttggaatt ccagaagact 600
ttgactacat agactaaaat attccatggt ggtgaaggat gtacaagctt gtgaatatgt 660
aaattttaaa etattateta aetaagtgta etgaattgte gtttgeetgt aactgtgttt 720
atcattttat taatgttaaa taaagtgtaa aatgca
<210> 66
<211> 756
<212> DNA
<213> Homo Sapiens
<400> 66
tgtcaaagaa aaaaggactg agtgcagaag aaaagagaac tcgcatgatg gaaatatttt 60
ctgaaacaaa agatgtattt caattaaaag acttggagaa gattgctccc aaagagaaag 120
gcattactgc tatgtcagta aaagaagtcc ttcaaagctt agttgatgat ggtatggttg 180
actgtgagag gatcggaact tctaattatt attgggcttt tccaagtaaa gctcttcatg 240
caaggaaaca taagttggag gttctggaat ctcagttgtc tgagggaagt caaaagcatg 300
caagcctaca gaaaagcatt gagaaagcta aaattggccg atgtgaaacg gaagagcgaa 360
ccaggetage aaaagagett tetteaette gagaccaaag ggaacageta aaggeagaag 420
tagaaaaata caaagactgt gatccgcaag ttgtggaaga aatacgccaa gcaaataaag 480
tagccaaaga agctgctaac agatggactg ataacatatt cgcaataaaa tcttgggcca 540
aaagaaaatt tgggtttgaa gaaaataaaa ttgatagaac ttttggaatt ccagaagact 600
ttgactacat agactaaaat attccatggt ggtgaaggat gtacaagctt gtgaatatgt 660
aaattttaaa ctattatcta actaagtgta ctgaattgtc gtttgcctgt aactgtgttt 720
atcattttat taatgttaaa taaagtgtaa aatgca
<210> 67
<211> 190
<212> PRT
<213> Homo Sapiens
<400> 67
Met Met Glu Ile Phe Ser Glu Thr Lys Asp Val Phe Gln Leu Lys Asp
Leu Glu Lys Ile Ala Pro Lys Glu Lys Gly Ile Thr Ala Met Ser Val
                                25
Lys Glu Val Leu Gln Ser Leu Val Asp Asp Gly Met Val Asp Cys Glu
                            40
Arg Ile Gly Thr Ser Asn Tyr Tyr Trp Ala Phe Pro Ser Lys Ala Leu
                        55
His Ala Arg Lys His Lys Leu Glu Val Leu Glu Ser Gln Leu Ser Glu
                    70
                                        75
Gly Ser Gln Lys His Ala Ser Leu Gln Lys Ser Ile Glu Lys Ala Lys
                                    90
Ile Gly Arg Cys Glu Thr Glu Glu Arg Thr Arg Leu Ala Lys Glu Leu
            100
                                105
                                                     110
Ser Ser Leu Arg Asp Gln Arg Glu Gln Leu Lys Ala Glu Val Glu Lys
        115
                            120
                                                 125
Tyr Lys Asp Cys Asp Pro Gln Val Val Glu Glu Ile Arg Gln Ala Asn
    130
                        135
                                             140
Lys Val Ala Lys Glu Ala Ala Asn Arg Trp Thr Asp Asn Ile Phe Ala
145
                    150
                                        155
Ile Lys Ser Trp Ala Lys Arg Lys Phe Gly Phe Glu Glu Asn Lys Ile
                165
                                    170
Asp Arg Thr Phe Gly Ile Pro Glu Asp Phe Asp Tyr Ile Asp
            180
                                185
```

<210> 68 <211> 190 <012> PRT

<213> Homo Sapiens

<400> 68

Met Met Glu Ile Phe Ser Glu Thr Lys Asp Val Phe Gln Leu Lys Asp Leu Glu Lys Ile Ala Pro Lys Glu Lys Gly Ile Thr Ala Met Ser Val 25 Lys Glu Val Leu Gln Ser Leu Val Asp Asp Gly Met Val Asp Cys Glu 4.0 45 Arg Ile Gly Thr Ser Asn Tyr Tyr Trp Ala Phe Pro Ser Lys Ala Leu 55 60 His Ala Arg Lys His Lys Leu Glu Val Leu Glu Ser Gln Leu Ser Glu 7.0 75 Gly Ser Gln Lys His Ala Ser Leu Gln Lys Ser Ile Glu Lys Ala Lys 85 90 Ile Gly Arg Cys Glu Thr Glu Glu Arg Thr Arg Leu Ala Lys Glu Leu 100 105 Ser Ser Leu Arg Asp Gln Arg Glu Gln Leu Lys Ala Glu Val Glu Lys 120 125 Tyr Lys Asp Cys Asp Pro Cln Val Val Glu Glu Ile Arg Gln Ala Asn 135 Ly's Val Ala Lys Glu Ala Ala Asn Arg Trp Thr Asp Asn Ile Phe Ala 150 155 Ile Lys Ser Trp Ala Lys Arg Lys Phe Gly Phe Glu Glu Asn Lys Ile 170 Asp Arg Thr Phe Gly Ile Pro Glu Asp Phe Asp Tyr Ile Asp 185

<210> 69 <211> 190

<212> PRT

<213> Homo Sapiens

<400> 69

Met Met Glu Ile Phe Ser Glu Thr Lys Asp Val Phe Gln Leu Lys Asp Leu Glu Lys Ile Ala Pro Lys Glu Lys Gly Ile Thr Ala Met Ser Val 2.5 2.0 Lys Glu Val Leu Gln Ser Leu Val Asp Asp Gly Met Val Asp Cys Glu 40 Arg Ile Gly Thr Ser Asn Tyr Tyr Trp Ala Phe Pro Ser Lys Ala Leu 55 His Ala Arg Lys His Lys Leu Glu Val Leu Glu Ser Gln Leu Ser Glu 70 75 Gly Ser Gln Lys His Ala Ser Leu Gln Lys Ser Ile Glu Lys Ala Lys 85 90 Ile Gly Arg Cys Glu Thr Glu Glu Arg Thr Arg Leu Ala Lys Glu Leu 100 105 Ser Ser Leu Arg Asp Gln Arg Glu Gln Leu Lys Ala Glu Val Glu Lys 120 Tyr Lys Asp Cys Asp Pro Gln Val Val Glu Glu Ile Arg Gln Ala Asn 135 Lys Val Ala Lys Glu Ala Ala Asn Arg Trp Thr Asp Asn Ile Phe Ala 155 Ile Lys Ser Trp Ala Lys Arg Lys Phe Gly Phe Glu Glu Asn Lys Ile 170 Asp Arg Thr Phe Gly Ile Pro Glu Asp Phe Asp Tyr Ile Asp

180 185 190